

FOOD AND HOUSING DIVISION

PLAN SUBMITTAL AND CONSTRUCTION GUIDE FOR OPENING A NEW FOOD ESTABLISHMENT IN SAN DIEGO COUNTY



PLAN CHECK UNIT (619) 338-2364

TABLE OF CONTENTS

Introduction
Procedures for Food Facility Plan Approval And Construction
Food Establishment Plan Checklist 5
Requirements for Food Facility Plan Review 6
General Construction and Equipment Requirements 8
1. Floors
29. Trash Disposal
Attachments 27

INTRODUCTION

The purpose of this document is to provide you with assistance in the opening of a new food establishment. The procedures and the information contained are intended to assist you in a step by step manner, and to provide a checklist of items necessary for the successful submittal, review, and ultimate approval of plans and specifications for your establishment. This portion of the document will provide you with a general overview of what the steps will be. Later in the document, there will be specific checklist items, which should better explain what details would need to be addressed on your plans.

- 1. Food establishments which are built from the ground up, from existing building spaces, or those that will be renovated to have a food establishment are required by State law to have plans submitted to the Department of Environmental Health (DEH). The Plan Check Unit of the Food and Housing Division performs the review and ultimate approval of the plans. They will also conduct construction inspections while your establishment is being built.
- 2. After this Department has approved your plans, you will also have to obtain approvals from the local building department. By law, a DEH plan approval is needed before the local building department will review the plans for their approvals. Depending on your locality, additional review may be needed by the local Fire Marshall.
- 3. Please keep the DEH stamped set of plans on the job site. Our staff will retain a set for construction inspection purposes. However, if the set is very large, we do not carry it onto the site. We will then need to use your DEH stamped set for construction inspections. Also, it is required by the local building department to have an approval plan set on-site.
- 4. Construction inspections of the establishment conducted by the DEH Plan Check Specialist after plans have been approved are as follows:
 - a. Preliminary Inspection. This inspection is for the purposes of ensuring that the plumbing installed in the establishment is installed according to your plans. Any piping installed in the ground or in the walls must be left uncovered until our Specialist inspects it. If there are no discrepancies, then the Specialist will approve this portion of the construction and allow you to cover the open plumbing and proceed with construction.
 - b. Mid-Construction Inspection. When your establishment is approximately 80% completed and/or within two weeks of your proposed opening date, this inspection is scheduled. Generally we will be checking your installed

floor, wall and ceiling surfaces, and any equipment that may be installed such as a hood exhaust system, cooking equipment, dishwasher, sinks, and everything specified on your plans. This is a very important inspection since you will be very close to your opening date. Any corrections can be accomplished without delaying your proposed opening date. When the Specialist has approved this inspection, you will then need to apply for your Annual Health Permit.

- Final Inspection. When you have finished all of your construction and the local building department has granted their final approval or an equivalent approval, this Department can conduct the Final Inspection for your opening. Hot and cold water must be available and all plumbing operational. All of your equipment such as the hood-exhaust system, refrigerators, and dishwashing machines must be functioning. Additionally, the establishment must be clean and sanitary and food handlers should have received their training and certification. Also, State law requires an owner or employee to have CA approved Food Safety Certification. Schedule food safety training prior to calling for final approval to open. Failure to comply may result in further legal action. When this final approval is granted, you can open to the public. It is vital that everything in your establishment is functioning properly. You should schedule your final inspection well in advance of your proposed opening date. This way you can stock your establishment and prepare your foods for the opening.
- 5. Construction Inspections must be scheduled at least three to five days in advance of the desired day of inspection. Our Specialist will be there on the date that you request. We, however, cannot always guarantee the time period. You are encouraged to contact our staff of the Plan Check and Construction Unit if you have any questions or problems in the building of your food establishment.

PROCEDURES FOR FOOD FACILITY PLAN APPROVAL AND CONSTRUCTION

- 1. Submit at least three complete sets of the plans and specifications. The list of items, which are considered to constitute a complete set of plans and specifications, are listed under "Requirements For Food Facility Plan Review."
- 2. Fees are charged for the review of the plans and are based upon the square footage of the establishment. This fee includes the inspections performed during construction of the establishment. The plan review fee does not include the Annual Health Permit, which is separate and is always applied for prior to opening.
- 3. An architect, draftsman, contractor, food facility consultant, or owner may prepare the plans. The plans must be drawn in ink, in a professional manner, to a scale which is indicated on the plans (i.e., 1/4"=1', 1/2"=1', etc.) and on a minimum 11" by 17" size paper.
- 4. The person submitting the plans will be notified of approval or the need for correction after the plans has been reviewed. Plans approved by this Department are considered ready for construction, provided permits from the local building inspection agency have been granted.

Plans needing correction or further information will have the deficiencies listed on a correction list. Plans having a significant number of corrections will need to be corrected prior to submitting for re-check. A fee for this re-check will be needed. Corrected, approved plans are considered ready for construction with appropriate building inspection permits.

Plans needing minor corrections will be "Red Tagged", which means that the corrections may be made at our office in the presence of our staff. Once corrected and approved, these plans are considered ready for construction with appropriate building inspection permits.

- 5. Once approved, two sets of the plans will be returned to the submitter. The specialist from the department who will be conducting the construction inspections will retain the third set. One of the Department of Environmental Health's (DEH) returned stamped plan sets must be kept at the site for reference to health code requirements during construction.
- 6. Inspected plan sets, once approved or those needing correction, will be retained for a maximum of thirty calendar days after the date of notification to the submitter. Submitters are encouraged to pick up their plan sets as soon as possible after notification.

- 7. If there are to be deviations from the approved plans once construction begins, it is imperative that these changes be discussed with the Plan Check Specialist assigned to your project. Changes involving health code matters must be approved prior to implementing the change. Minor modifications may be handled directly with the Plan Check Specialist. Major changes may require a re-submission of amended plans for review.
- 8. During the construction of the establishment, please make the appointments for the construction inspections already described. The person on the job site, most directly responsible for the establishment construction should be the person calling for the construction inspection appointments. Appointments must be scheduled at least three days in advance of the desired date. The phone number for the Scheduling Desk is stamped on the DEH approved plan set.
- 9. Prior to the granting of the DEH Final Approval, the following must be completed:
 - a. Any discrepancies noted during the DEH Mid-Inspection must be corrected.
 - b. The local building inspection agency and fire department must grant their final approvals. Proof of these approvals must be on the job site (i.e., final sign off on respective "job cards", etc.). The DEH Final Approval cannot be granted without these approvals.
 - c. Utilities (electric, gas, and potable water) must be provided at the time of the DEH Final approval.
 - d. All equipment must be in operating condition (i.e., hood exhaust system, refrigeration, food heating units, hot water heater(s), dishwashing, ovens, sinks, washbasins, toilet fixtures, etc.).
 - e. Application must be submitted and all fees paid for the Annual DEH Health Permit.

The DEH Final Approval inspection should be scheduled at least three days in advance of the desired final inspection date. Please remember that the approval of the final inspection clears the establishment to operate. At this time, the establishment must be clean and ready.

PLAN	CHECK	Ε#	
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FOOD ESTABLISHMENT PLAN CHECKLIST

The following review at:	items are needed on plans to be acceptable for plan				
Teview at:	(Name and Address of Establishment)				
pe	Plans must be submitted in non-erasable ink, or print (no pencil), to a stated scale (i.e., 1/4" per ft.), and done in a professional manner. One (1) set is required on a minimum 11" by 17" size paper.				
a. b. c. d. e.	Floor plan of establishment Equipment list, type and elevation required Plumbing plans and schedule				
na	ovide exact name and address of the food facility, the me, phone number, and mailing address of tenant/owner and ontractors on the title page of plans.				
	ate on plans whether the food facility is served by nicipal water, or by well water.				
mu	ate on plans whether the food facility is served by a nicipal sewer district, or by a subsurface disposal stem-septic tanks, etc.				
an Us	establishment is on a septic tank or private well, then approval for their use must be obtained from the Land e Division of the Department of Environmental Health DEH).				
7. Th	e total square footage of the establishment in sq. ft.				
co th Pr De	the establishment project (new/remodel/ti) is being instructed within the City of San Diego, then approval the Food Establishment Wastewater Discharge Permit ogram is needed prior to the initial submittal to the spartment of Environmental Health. For appointment call 58) 654-4188 to schedule an appointment.				
T have reviewe	d the above listed items and certify that all required				

I nave reviewed the above listed items and certify that all required information is addressed in the plans to be submitted.

I understand that if the plans are incomplete due to a lack of any of the required information, the plans will be rejected and upon resubmission, a plan re-review fee will be charged.

Signature	
Title	Date

REQUIREMENTS FOR FOOD FACILITY PLAN REVIEW

The following information is needed on plan submittals:

GENERAL REQUIREMENTS

- 1. Provide the name and address of the food facility. Provide the name and telephone number of the owner, contractor, and contact person.
- 2. Plans are to be drawn to scale (e.g., 1/4" = 1') using non-erasable ink or print (pencil drawings are not acceptable), and are to include:
 - a. A detailed site plan.
 - b. Floor plan of the entire establishment. Include all interior and exterior doors, toilets, dressing rooms, garbage and trash areas, food preparation, dining, dishwashing, office space, dressing rooms, etc. (SEE ATTACHMENTS)
 - c. Complete equipment layout, including equipment specifications. Equipment shall be listed as meeting the applicable standards as established by NSF International or equivalent testing lab.
 - d. Complete plumbing layout showing sewer, waste drains, floor sinks, floor drains, grease traps, grease interceptors, and all fill faucets. (SEE ATTACHMENTS)
 - e. Complete hood-exhaust ventilation system layout including location of make-up air ducts. Indicate the type of hood specified for the particular cooking equipment being ventilated. (SEE ATTACHMENT)
 - f. Location of exterior trash enclosure, if part of plan.
 - g. Complete finish schedule for walls, ceiling, and floors which indicates the type of material, the color, the surface finish, and the type of integral cove base at the floor/wall juncture. (SEE ATTACHMENTS)

Samples of proposed finish material may be required prior to plan approval. (SEE ATTACHMENT)

- h. Provide door and window schedule.
- i. When all corrections have been made and verified, three sets of plans will be required, one for the Health Department, one for the Building Department and one for the Owner/Contractor.
- 3. DEH Note(s) Section (the following information is required):
 - a. State on plans whether the facility will be connected to a

- municipal water system (e.g., City of San Diego, Helix, Sweetwater, Padre Dam, etc.) or if the facility is served by a water well (mostly remote rural areas).
- b. State on plans whether the facility will be connected by a municipal sewer system (i.e., City of San Diego, Escondido, etc.), or if the facility will be served by a sub-surface sewage disposal system (septic system--mostly remote rural areas).
- NOTE: If water provided to the food facility is from a water well, and/or the facility is connected to a sub-surface sewage disposal system, then an approval for their use, including design and testing, shall be obtained from the Land Use Division of this Department prior to plan approval.
- c. Provide total square footage of the establishment.
- d. Indicate the type of food facility (i.e., 100% pre-packaged food, restaurant-single service utensils, restaurant-multi service utensils, bar only, bakery, etc.).
- e. Indicate if alcoholic beverages will be served. If no alcoholic beverages will be served indicate "No alcoholic beverage service."
- f. Indicate on plans that all food related and utensil related equipment and installation will meet NSF, ETL, or applicable sanitation standards.
- g. Indicate on plans that all lavatories and/or handsinks will have a combination faucet or premixing faucet capable of supplying warm water for a minimum of ten seconds.
- h. Indicate on plans that approved backflow prevention devices will be properly installed upstream of any potential hazard between the potable water supply and a potential source of contamination.
- i. Indicate on plans that the hot water heater will be a commercial type, capable of constantly supplying hot water at a temperature of 120°F to all sinks, hand lavatories, and other cleanup facilities. "Guidelines for Sizing Hot Water Heaters" available upon request.
- j. Indicate on plans the number of employees per shift.
- 4. The use of approved materials and good workmanship are significant factors in the evaluation and final field approval of food facility construction and equipment installation. A properly constructed establishment enhances cleanability and operation and lessens the necessity for early repair or replacement of equipment or structure.

GENERAL CONSTRUCTION AND EQUIPMENT REQUIREMENTS

Please remember that our Plan Check and Construction staff must interpret how you have designed your food establishment by looking at your plans. The more information you provide in the following areas, the better we can assess how your design will conform to the laws and regulations pertaining to food establishment construction.

Your set of plans must show and specify the following in detail:

- 1. FLOORS. The floor surfaces of a food establishment must be durable; cleanable; and impervious to water, food, food by-products, and chemicals used on the floor for cleaning or other purposes.
 - a. Floor surfaces in all areas where food is prepared, packaged, dispensed or stored, where any utensil is washed, where refuse or garbage is stored, where janitorial facilities are located, in all toilet and hand washing areas, and in employee change and storage rooms, is to be of an approved floor surface that continues up the wall at least four inches with a 3/8 inch minimum radius cove as an integral unit. This extension of the floor includes toe-kicks of counters and equipment that sets flush on the floor. Examples include self-service food and beverage counters, and equipment that have open food or beverages. Vinyl Rubber Topset Cove Base is not acceptable. (SEE ATTACHMENT ON CONTINUOUS COVING DETAIL)
 - b. Floor drains are required in new toilet rooms, in areas where dish machines are used, in janitorial rooms with mop sinks, in bars equipped with bar sinks or glass washers, and in front of walk-in coolers or equipment which are cleaned by water flushing or where products are iced down. The floor surface needs to slope to the floor drains (1/4" per foot).
 - c. Flooring under equipment shall be completely smooth for cleanability. Floor surfaces that contain anti-slip agents or surfaces are limited to foot traffic areas only.
- 2. WALLS. Wall surfaces of a food establishment are required to be smooth for cleanability and light colored in order to assist in detecting dirty areas and for light reflectance onto the working surfaces. Walls in certain areas are also required to be durable in order to withstand moisture, repeated cleaning, and chemicals used in cleanup activities.
 - a. Walls in all areas except the dining spaces are required to be durable, smooth surfaced, light colored,

- and have an easy to clean and washable surface. Wall surfaces that cannot be used include brick, concrete block, rough concrete, rough plaster, grooved paneling, wallpaper, and vinyl wall coverings. These surfaces are either too rough, not cleanable, or don't have sufficient durability.
- b. Acceptable wall surfaces include gloss or semi-gloss enamel paint, approved epoxy coatings, Fiber Reinforced Plastic (FRP) panels, ceramic tile (light-colored), synthetic enamel paint, or other approved materials with a Light Reflectant Value (LRV) of 70% or more. Polished stainless steel sheeting is acceptable in lieu of the required LRV.
- c. Wall surfaces behind sinks (pots and pans, janitorial, utensil, food preparation, hand basins) and dishwashers must have a minimum eight (8) foot high water resistant wall material. FRP, stainless steel, ceramic tile, or other approved materials are acceptable in these areas. FRP and metal flashing surfaces need to be sealed to the sub-wall surface.
- d. Wall surfaces of toilet rooms are required to be smooth and cleanable. Walls behind hand basins, toilets, and urinals will need wainscoting that complies with local building department requirements. If wainscoting is required, the surface needs to be smooth surfaced, durable, and water-resistant.
- e. If you have a wall surface material that you desire to use in your food establishment and are not sure if it would meet these requirements, please submit a sample for evaluation. We will be able to assist you in your decision.
- f. Wall surfaces of 70% LRV or greater are not required in bars where alcoholic beverages are sold or served directly to the customer (except behind bar sinks, dining and sales areas, offices, and restrooms that are used exclusively by patrons.
- 3. CEILINGS. Ceiling surfaces are also required to be smooth for cleanability; light colored in order to assist in detecting dirty areas and for light reflectance onto the working areas; and durable in order to withstand moisture, repeated cleaning, and chemicals used in cleaning.
 - a. Ceiling surfaces in all food preparation areas are required to be smooth, light-colored, easy to clean, and possess a Light Reflectant Value (LRV) of 70% or more. Acceptable surfaces include gloss or semi-gloss light colored enamel paint, approved epoxy coatings, smooth surfaced lay-in vinyl panels (sample may be required) and similar approved surfaces.

- b. Blown on acoustical ceiling material and textured layin acoustical ceiling panels may be used only in dining rooms and non-food preparation or handling spaces (e.g., hallways, pure office spaces, etc.).
- c. Waitress stations, salad bars, food serving, or selfservice open food counters or other similar stations located immediately adjacent to, or in the dining areas, need to have floor, wall, and ceiling surfaces that meet food preparation area requirements.
- 4. CONDUIT. Conduit must be properly installed in the food establishment so that it does not cause or contribute to cleanability problems.
 - a. All plumbing, electrical, and gas lines are required to be concealed within the building structure to the greatest extent possible (STATE IN HEALTH NOTES). If you are remodeling an existing building into a food establishment, careful planning is needed to address all plumbing, electrical, and gas line installations so that they can be installed behind wall surfaces and are not exposed.
 - b. In circumstances where it is (primarily structural limitations or restrictions of the building) not possible to install conduit behind the walls, all conduit runs are to be located at least 3/4 inch away from the walls or ceilings and a minimum of six (6) inches above the floor. Conduit is to be installed so that it is secure.
 - c. Where conduit or plumbing lines enter a wall, ceiling or floor, the opening around the conduit or plumbing is required to be tightly sealed to prevent the entry of rodents or vermin. The sealant material needs to be rodent proof.
 - d. Conduit, plumbing or piping cannot be installed across any aisle way, traffic area or door opening.
 - e. Multiple runs or clusters of conduit or pipelines are required to be furred out and encased in an approved runway or other sealed enclosure.
- 5. EXHAUST HOODS AND DUCTS. A hood-exhaust system is required in your food establishment to remove the by-products (smoke, steam, grease, vapors and heat) of cooking. While the aroma of cooking food is enticing to your customers, insufficient removal of the by-products leads to cleanability problems when the vapors, smoke, and grease deposit on your equipment, the floors, walls, and ceilings.

- a. Mechanical exhaust ventilation system equipment is required for all ranges, griddles, ovens, deep fat fryers, barbecues, rotisseries, and high temperature dishwashing machines.
 - 1) A Type I Hood is a kitchen hood for collecting and removing grease and smoke. These hood systems are equipped with approved grease filters or grease extractors designed for that specific purpose.
 - 2) A **Type II Hood** is a general kitchen hood for collecting and removing steam, vapors, heat or odors.
- b. All hoods, ducts, and exhaust outlets are required to be installed in accordance with Chapter 5 of the current edition of the Uniform Mechanical Code as adopted by the local building inspection department.
- c. Plan Detail Requirements: Provide an illustration sheet showing hood exhaust data and refer to Hood-Exhaust System Drawings Attachment. Contact us if you need further information or assistance.
- d. All joints and seams of the hood and exhaust duct(s) are required to be sealed, welded, or soldered for ease of cleaning.
- e. Canopy Type Hoods.

Canopy type hoods cannot be more than seven (7) feet above the floor and are not permitted to be more than four (4) feet above the cooking surface. This dimension is measured to the lower edge of the hood canopy. (If the hood is too far above the cooking equipment, there is insufficient "draft" to remove the cooking by-products).

The hood canopy is required to overhang or extend a horizontal distance of not less than six (6) inches beyond the outer edges of the cooking equipment to the inner lip of the hood canopy on all open sides. Canopy type hoods are required to have grease gutters or drip pans that are easy to clean.

Hood canopies for pizza ovens and barbecue pits require an eighteen (18) inch overhang, with a twelve (12) inch overhang on the sides, as measured from the door opening and or cooking surface.

Charbroilers require 12 inch overhangs.

f. Non-canopy Type (high velocity) Hoods.

Non-canopy type hoods extract the by-products of cooking horizontally across the cooking surface into the exhaust system versus the vertical extraction of a canopy type system.

Non-canopy type hoods will be approved provided they are constructed to be easy to clean and that they comply with the minimum exhaust air velocity requirements. Shielding at the ends of the hood may be necessary to prevent interference from cross drafts.

- g. Make-Up Air System. All exhaust systems are required to have a mechanical make-up air system that replaces 100% of the exhaust air. Windows, doors, or other openings into the establishment cannot be used for the purposes of providing make-up air. A separate fan system providing air into the building is required. The make-up air control switch is required to be interlocked with the exhaust air system switch so that both systems are functioning at the same time.
- h. Careful consideration must be taken into account when placing food heating or warming devices such as cheese melters, plate warmers, etc., above other equipment located under an exhaust system. Disturbance of the airflow may result with inefficient exhausting of cooking by-products. The design, construction, and installation of such devices under a hood need to be reviewed by this Department prior to the actual installation of the equipment.
- i. Fire extinguishing systems may be required by the local fire prevention codes. When fire suppression systems are installed, they must be installed so that all exposed components under the hood are easy to clean and accessible for cleaning.
- 6. REFRIGERATION. Adequate refrigeration spaces, equipment, and start/stop capacity is an essential element in the operation of a food establishment. In order to quickly chill perishable foods from cooking temperature to refrigeration temperature adequate capacity is needed. Adequate space must be provided to properly hold all foods needing refrigeration and be able to handle the needs of the food establishment.
 - a. General Requirements: Refrigeration equipment must be specifically constructed for commercial usage. Refrigeration equipment that is listed by the National Sanitation Foundation International (NSF), or on a listing equivalent to NSF standards, is generally accepted as equipment acceptable for installation in food establishments.

<u>food establishments.</u> Domestic refrigeration units do not have sufficient refrigeration capacity, are not easily cleanable, and generally do not withstand the usage associated with commercial food establishment.

1) All refrigeration units are required to have an accurate, readily visible working thermometer. The thermometer should be placed in the "warmest" part

- of the compartment, usually near the door.
- 2) Shelving of the refrigerator unit needs to be nonabsorbent and easily cleanable. Wood is not an acceptable shelving material.
- 3) The interior of the refrigerator must have smooth, nonabsorbent, and easily cleanable surfaces. All joints must be sealed.
- 4) Condensate waste from reach-in refrigerator units must be drained into the public sewer via a floor sink with legal air gap.
- 5) Rapid cool down facilities may be required depending upon the food operation.
- b. Walk-In Refrigeration Units.
 - 1) The floor of a walk-in refrigerator unit is required to have an integral cove base with a radius of at least 3/8" at the floor-wall juncture. The floor material is required to extend up the wall at least four (4) inches and be of one-piece construction. Four inch approved metal topset coving with a minimum 3/8" radius is acceptable only against metal wall surfaces of walk-in units.

Wood and vinyl are not acceptable floor surfaces for walk-in units.

- 2) The interior walls of the walk-in unit are required to be smooth surfaced, light colored, moisture proof, durable, and able to withstand prolonged exposure to low temperatures.
- 3) Shelving of a walk-in unit is required to be listed by NSF or have an equivalent certification. The shelving must keep foods off the floor of the walk-in unit by a minimum of six (6) inches, be constructed of smooth metal, have NSF-type metal legs, or be cantilevered from the wall surface for ease of cleaning. Small, easy to move, castered dollies may be used in place of a lower shelf inside of a walk-in unit.
- 4) Condensate waste lines are required to drain to a floor sink via legal air gap, located outside of the walk-in unit. Floor sinks, floor drains, or sewer cleanouts are not permitted inside a walk-in refrigerator unit.
- The condensate line must be routed to the nearest wall and then exit the walk-in unit. The condensate line cannot be located closer than 3/4 inch to the wall or ceiling, and no closer than six (6) inches to the floor. The condensate line must be constructed of rigid piping that is secured to the adjacent wall with the clearances as indicated.

6) Walk-in refrigerator units are required to open directly into the food establishment.

7. ICE MACHINES.

- a. Ice machines are required to be located inside of the food establishment. The area in which the ice machine(s) are located must have adequate ventilation and be easy to clean.
- b. Condensation and ice melt drippage is required to drain into a floor sink via legal air gap. The floor sink to be adjacent to ice machine.
- 8. FLOOR SINKS. Floor sinks are the plumbing fixtures required for the receipt and disposal of liquid waste. Careful planning is needed to ensure the proper placement of all required floor sink installations so that equipment generating a liquid waste is properly drained.
 - a. Floor sinks are to be installed flush with the floor surface and have appropriate cover grate(s).
 - b. Floor sinks must be installed so that they are readily accessible for inspection, cleaning, and maintenance. A protective enclosure will be required around the back side of half-exposed floor sinks installed under curb or base mounted equipment to prevent any wastewater back flow under the equipment.
 - c. The floor sink must be located within fifteen feet of the drain opening of the equipment served. However, floor sinks for ice machines must be located immediately adjacent to the ice machine.
 - d. Waste line plumbing draining to the floor sink must be located at least 3/4 inch from the wall and six (6) inches off the floor. The piping is to terminate at least one (1) inch above the overflow rim of the floor sink, or the minimum clearance needed to provide a legal air gap (2X pipe diameter of discharge pipe).
 - e. Waste line plumbing to a floor sink may not cross any aisle way, traffic area, or door opening.
- 9. KITCHEN UTENSIL SINK. When kitchen utensils, food preparation equipment, and related utensils are washed by hand, a properly sized sink is required to adequately handle the equipment and utensils to be washed.
 - a. A three (3) compartment stainless steel sink with dual, integrally installed stainless steel drainboards meeting current NSF standards is required for food establishments washing multi-service kitchen utensils (i.e., pots, pans, knives, utensils, etc.).
 - b. The minimum compartment size is required to be at least

18" by 18" by 12" deep. The drainboards are required to be a minimum of 18" by 18". Although minimum sink compartment dimensions are specified, the sink must be able to accommodate the largest utensil to be washed while the drainboards need to be enlarged to match the sink dimensions. (INDICATE SINK DIMENSIONS ON HEALTH NOTES)

- When a sink is installed next to a wall, a metal "backsplash" extending up the wall at least eight (8) inches will be required as part of and integral to the sink. The backsplash needs to be sealed to the wall to close any gaps between the sheet metal and wall surface.
- d. A kitchen utensil sink is not required if the food establishment serves 100% pre-packaged food items. This means that there is no preparation of food or drink; no ice packing or handling; no unpackaged snacks, candy, or beef jerky; and no liquid beverage tap dispensers. If you have any questions on how this affects your food establishment, please ask.
- Large food establishments that have separately operating food sections (i.e., bakery, deli, meat market, etc.) handling unpackaged foods will require three compartment sinks in each location.
- 10. FOOD PREPARATION SINKS. Food establishments utilizing a sink for food preparation such as thawing, washing, etc. are required to have at least a one- (1) compartment food preparation sink separate from utensil washing sinks. The food preparation sink with one drain board is required to drain to an adjacently located floor sink via legal air gap.

Food preparation sinks must meet all NSF standards.

- 11. BAR UTENSIL SINKS. Where multi-service drinking utensils are washed by hand, a minimum three- (3) compartment sink is required. Drinking utensil sinks must meet all NSF standards.
 - Bar sinks are to have a minimum compartment size of 10" by 14" by 10" deep (or a minimum of 140 square inches in surface area), with dual integral drainboards, and a minimum of 18" long. Bar sinks are also required to have a quick drain or 4th sink compartment for disposal of drink/ice waste. Bar sinks are required to drain to an adjacent floor sink via a legal air gap.
 - When a sink is installed next to a wall, a metal "backsplash" extending up the wall at least six inches for bar sinks and eight inches for utensil sinks is required to be formed as an integral part of the sink and sealed to the wall.
 - Provide sanitizing testing equipment and materials to adequately measure the applicable chemical sanitizer at the sinks for multi-service utensils.
- 12. AUTOMATIC DISHWASHER/GLASS WASHERS. The food establishment operator may choose to use automatic glass and dishwashing machinery in their operation in addition to the required three-compartment kitchen utensil sink.

- a. The National Sanitation Foundation International (NSF) must list all automatic dishwashers, pan washers, and glass washers in the latest issue of Standard #3. Devices not listed in Standard #3 may not be used in public food establishments.
- b. All spray type dishwashers, pan washers and glass washers which are designed for a hot water bactericidal rinse are required to be provided with a booster heater that meets the requirements of Standard #5 of the NSF International, or be connected to an approved hot water recirculating system which is capable of maintaining the rinse water at not less than 180°F. These types of dishwashers will require the installation of an approved exhaust hood to remove steam, heat and vapors generated by the dishwashing machine.
- c. Dishwashers, pan washers, and glass washers are required to have two (2) integral stainless steel drainboards at least 18 inches long. Drainboards for under counter dishwashers may be adjacent to the machine. Counters located above dish machines are not considered as drainboard space. Soil side drainboard must slope and drain to an approved waste receptacle such as a quick drain.
- d. The dishwasher must also be provided with thermometers and pressure gauges to indicate the proper water flow pressures and temperatures.
- e. All waste from dishwashers, pan washers, and glass washers are required to drain to an adjacent floor sink via legal air gap. The under drain plumbing for the floor sink must have a minimum 3" trap.
- f. If a **glasswasher** is proposed at a bar area, one of the following must be provided:
 - 1) A three- (3) compartment sink within the area or an adjacent kitchen.
 - 2) A dishwasher in an adjacent kitchen.
- g. Provide sanitizing testing equipment and materials to adequately measure the applicable chemical sanitizer at the dishwasher/glass washer.
- h. Undercounter-type automatic dishwashers need to be placed on curbing if the machine is not mounted on castors.
- 13. GARBAGE DISPOSALS. Garbage disposals, if proposed, must be installed in drainboards. The drainboard must be lengthened to accommodate the disposal unit in addition to the minimum 18" required drainboard size. Garbage disposals may not be placed in or under any required sink compartment.

- Some municipalities prohibit the installation of garbage disposals. Check with your local building department.
- 14. JANITORIAL SINK AND SUPPLIES. A separate janitorial sink is required for mops, cleaning solutions, and other cleanup materials.
 - a. The janitorial sink is required to be located in a separate janitorial room or separated from the rest of the food establishment equipment by a solid partition. The partition must be wall mounted, free standing, durable, smooth, and easily cleanable.
 - b. At least a one (1) compartment janitorial sink is required. The janitorial sink shall be floor mounted or constructed using a curb on all four sides that properly slope to a drain. Curbed area surfaces need to be smooth, impervious, and of easily cleanable construction.
 - c. All janitorial sinks are to be supplied with hot and cold running water to a mixing type faucet with %" hose outlet. The faucet fixture is to have an approved back-flow prevention device attached. No chemical dispensing system to be attached to mop sink faucet.(STATE ON PLUMBING PAGE OR HEALTH NOTES).
 - d. A janitorial room or cabinet is required to be provided for the storage of cleaning equipment (mops, buckets, brooms, etc.) and supplies (soap, cleansers, waxes, bleach, etc.) and is to be kept separate from any food preparation, utensil washing, or food or utensil storage area.
- 15. HANDWASHING SINKS. Conveniently located handwash sinks are needed in food preparation and cooking areas so that foodhandlers may wash their hands whenever the need arises.
 - a. Handsinks are required to be placed in each food preparation area. Each handwash sink shall provide hot and cold running water under pressure through a mixing type faucet.
 - b. Soap and sanitary towels are required to be provided in single-service, permanently installed dispensers at each handsink.
 - c. A separate handsink must be installed in each section of a food establishment that handles unpackaged food (i.e., deli, meat, bakery, beverage bars, sushi bar, oyster bar, etc.).
 - d. If a handsink is located directly adjacent to a food preparation or utensil-washing sink, then a barrier is required to prevent splash over from the handsink to the food preparation/utensil sink. The barrier is to

be the length of the sink and at least twelve (12) inches in height, whichever is greater. The barrier must be constructed of waterproof material and firmly attached to the wall or other approved structure. If the handsink is centrally located in a counter top, then barriers must be located on both sides of the sink.

- 16. DIPPER WELL. A running water dipper well is required if scoops or other reusable serving utensils are used for dipping ice cream, butter, tuna salad, etc. The continuous flow of water into the dipper well cleanses the scoops.
 - a. The dipper well needs to drain into a floor sink via a legal air gap separation.
 - b. The water spigot supplying water into the dipper well needs a legal air gap separation.
- 17. WINDOW SCREENS. To prevent the entry of flies, dust, and other undesirable conditions into the food establishment, all openable windows located anywhere in the establishment opening to the outside are required to be screened. The screening must fit the window opening securely. Minimum sixteen (16) mesh per inch screen material is required.
- 18. SERVICE OF UNPACKAGED FOODS/UTENSILS DIRECTLY TO OR BY THE CUSTOMER. Self-service displays of unpackaged foods or utensils are required to be shielded so as to prevent "droplet" contamination from the customer. A properly designed "sneeze shield" serves to intercept a direct line between the customers "mouth and nose zone" and the food or utensils being displayed. (In other words, we want to prevent sneezing, spitting, and coughing onto the food we all eat).
 - a. The sneeze guard design is to meet the critical dimensions (See Sneeze Guard Drawings in Attachments).
 - b. Sneeze guards are required for cafeteria, buffet and salad bar service, food preparation equipment, and food preparation areas.
 - c. Cleaned and sanitized glasses and stemware that are displayed or stored in bar areas over customer service counters are required to be protected from customer contamination (touching, cigarette/cigar smoke, etc.)
 - d. Approved self-service containers are required to have tight-fitting individual lids.

19. BACKUP DRY FOOD AND BEVERAGE STORAGE. A suitable amount of floor space needs to be dedicated within the establishment for the storage of food, beverages, and related products. Storage is classified into two types of storage. Back-Up storage is space dedicated for the storage of all products to be used in the establishment. Working Storage is storage space located over and under food handling equipment used in conjunction with food preparation areas. Examples of this are cabinets, wall mounted shelving, etc.

General Requirements.

a. In most cases, at least ninety-six lineal (96) feet of approved shelving units are required for back-up dry storage space. Additional storage shelving may be required depending on the size and type of operation.

The lineal footage of storage shelving is calculated by multiplying the number of tiers by the number of feet in length of each shelf. A minimum of 18 inches is required for the width of each shelf. The minimum 18" width, however, is only a standard for width and is not used in calculating lineal footage. For example a 5-tier shelving rack whose shelves are 5 feet in length and 18 inches in width, would amount to 25 lineal feet. These shelves should be arranged into a metro-type shelving unit. Acceptable shelf lengths are 3 feet, 4 feet, 5 feet, and 6 feet.

- b. For larger facilities, the storage footage is based on 25% of the floor space of the kitchen, storage and food preparation areas. EXAMPLE: Combined floor space of kitchen, storage and food preparation areas is 1000 square feet. Twenty-five percent of 1000 square feet is 250 feet. This facility would need 250 feet of storage space.
- c. Shelving needs to be designed and constructed so that it is easy to clean. Shelving constructed of pressboard, pressed wood or plywood is not acceptable unless laminated with a smooth, durable material on all sides and edges. Shelving located over sinks and other wet areas must be constructed of metal.

Shelves installed on a wall are to have a minimum one (1) inch gap or open space between the back edge of the shelf and the wall surface. The back edge of the shelves can also be sealed to the wall with an approved sealant, such as silicone or equivalent instead.

The lowest shelf must be constructed at least six (6) inches above the floor surface with the space under the shelf clear and unobstructed for cleaning underneath. If the space below the bottom shelf is less than six

(6) inches, then the opening must be sealed with a continuous cove base. If the space below is not to be accessible, then the opening is to be sealed off a continuous cove base. The continuous cove base should be a minimum of four (4) inches with a 3/8-inch radius.

To prevent contamination from a work surface above storage shelves, shelving located below a working surface must be set back at least two (2) inches from the drip line of the working surface above.

If shelving is mounted on legs, the legs are to be at least six (6) inches in height, and constructed of metal meeting the requirements of the NSF for metal legs.

- Electrical panels, large fire prevention system control components, or similar wall-mounted apparatus shall not be placed in a food storage room unless adequate provisions are made to compensate for the loss of storage space caused by the placement of the apparatus. Storage shelving is not to be placed where access to this equipment is impeded.
- Each separate food department of a grocery store which handles unpackaged foods (deli, meat, bakery, etc.), and satellite food service facilities in restaurants (sushi bars, oyster bars, etc.), must provide for its own back up dry food storage space based on previously stated minimum requirements.
- f. Storage space for bars and taverns shall consist of a separate room with forty-eight (48) lineal feet of approved storage shelving. Depending on the size of the operation, additional storage may be required. When a bar is located in a restaurant, the back-up storage requirement for the bar is included in addition to the required dry food storage footage for the restaurant.
- For produce departments of grocery markets or produce stores selling produce only, a segregated room of at least fifty (50) square feet of floor surface shall be dedicated for back up storage of food and packaging supplies, or at least forty-eight (48) lineal feet of approved shelving are required. Additional shelving may be required depending on the size and scope of the operation.
- Properly designed, adequate, accessible and 20. well-maintained toilet rooms must be provided for employees of the food facility.
 - Toilet facilities are required within each food facility and must be accessible for the employees. Existing toilet facilities must be a minimum of twenty square feet in floor surface area.

constructed toilet rooms will be larger in order to comply with handicap requirements under the Americans With Disabilities Act (ADA). Contact your local inspection department building for specific requirements under the ADA prior to designing the toilet rooms and before submitting plans to this department for review.

- Separate men and women toilet rooms will be required, if there are five or more employees working per shift.
- c. Public toilet facilities are required for establishments larger than 20,000 square feet.
- Toilet facilities are to be located so that patrons do not pass through the food preparation, food storage, or utensil washing areas when they need to access the toilet facilities.
- The floors of toilet rooms shall be smooth surfaced, easy to clean, and continuously coved up the wall a minimum of four (4) inches with a three-eights (3/8) inch cove radius. A floor drain with the floor sloped 1/4 inch per foot from the walls to the drain is required.

The walls and ceilings of toilet rooms shall be smooth surfaced, cleanable, and preferably light colored. Light surface texturing may be acceptable, provided that the final finish surface is cleanable. The lower four feet of toilet rooms walls shall be wainscot (FRP board, etc.) behind any plumbing device (handbasin, toilet or urinal).

- Handwashing lavatories shall be provided within each toilet room. The lavatory shall be provided with hot and cold running water dispensed from a mixing type faucet. The lavatory shall be connected and wastewater dispensed to the sanitary sewer system.
- Soap and single service paper towels shall be dispensed from permanently affixed dispensers mounted on the nearest wall or partition adjacent to the handsink. Toilet paper dispensers shall be provided for each toilet.
- Toilet room doors shall be self-closing and tight fitting with 1" air gap. (ADD TO HEALTH NOTES)
- All toilet rooms shall be provided with ventilation meeting the requirements of the Uniform Mechanical Code and/or Uniform Building Code. Mechanical ventilation is preferred; however, ventilation of a toilet room is considered adequate with an openable, screened window.

21. CLOTHING CHANGE ROOMS/AREAS.

- a. A change room of twenty (20) square feet in floor surface area is required for employees to change from street clothes to work clothes. The room is also used to store clothes and other outer garments. In situations where there are ten (10) or more employees per shift, a separate change room for each sex is required. These change rooms are to be separate from bathrooms, food storage areas, and food preparation areas.
- b. A designated area separate from toilets, food storage or food preparation areas shall be provided to store outer garments and personal belongings when the change rooms are not required.
- c. Once the change room or designated area is established, it cannot be used for other purposes such as an office, food storage, etc.
- 22. PASS-THROUGH WINDOWS. Openings in the walls of food facilities may be constructed in order to serve food prepared in the facility to customers waiting outside. The following requirements are designed to facilitate this type of operation and to ensure that openings do not contribute to the entry of undesirable insects and dirt.
 - a. The maximum openable area of a pass through window is 432 square inches.
 - b. Pass through windows that are 216 square inches or less of openable area are required to have a sliding closure of solid construction or a screened sliding closure.
 - c. Pass-through windows, whose open area is greater than 216 square inches, but not larger than 432 square inches, are required to be equipped with an air curtain device. The air curtain will produce an air flow eight (8) inches in thickness at the discharge opening and with an air velocity of not less than 600 feet per minute across the entire opening at a point three feet below the air curtain plenum. Air curtains for these types of openings will be micro-switch activated when the sliding door is opened.
 - d. Facilities with multiple pass-through windows will need to space the pass-through windows a minimum of 18" apart, measured on edge.
 - e. Avoid installing slide rail guide in the surface of the pass-through counter. The pass-through counter surface must be smooth, without cracks, crevices, or channels.
- 23. EXTERIOR, ENTRY, EXIT, AND CARGO DOORS. Door openings to the outside need to be protected to prevent the entry of rodents, insects, dust, and dirt.

- a. All exterior doors of a food facility are to open outward and are to be self-closing. (STATE IN HEALTH NOTES). If an exterior door cannot be made to open outward, then a tight-fitting self-closing screen door that opens outward will need to be installed in the If situations opening. (building limitations) preclude the installation of an outwardopening door, then an air curtain device is to be installed over the door opening. The air curtain device is to provide an air velocity of at least 1600 feet per minute, measured three feet above ground level at the door opening. The air curtains for these types of doors will be micro-switch activated when the door is opened. Sliding doors must be automatic type.
- b. Large cargo type doors can only open directly into a room or where food is stored only in unopened bottles, cans, cartons, sacks, or other original shipping containers. Cargo type doors that open into any food warehouse or food facility may only be open during deliveries. In order to prevent the entry of rodents and undesirable insects, cargo type doors must be installed to be tight fitting.

Additionally, an air curtain is required on these types of doors to prevent the entry of flying insects and dust when the door is open.

- 24. LIGHTING. Adequate levels of light are essential in the food preparation areas. Food service workers need to be able to clearly see the items that they are preparing for your customers in order to ensure freshness and wholesomeness of the food. During times of cleanup and maintenance, adequate lighting is necessary to assist in determining where cleanup efforts are needed and to ensure the adequacy of cleanup operations. (STATE THE FOLLOWING AS APPLICABLE IN HEALTH NOTES).
 - a. A minimum of twenty (20) foot candles of light, measured thirty (30) inches above the floor is necessary in food preparation areas, dishwashing areas, and the glass washing areas of bars (except where alcoholic beverages are served).
 - b. A minimum of ten (10) foot-candles of light is necessary in food and utensil storage rooms, bar washing, refrigeration storage spaces, toilet rooms, and dressing rooms.
 - c. During times of cleanup, all areas are to have a minimum of twenty (20) foot-candles of light.
 - d. Light fixtures installed over areas where food is prepared, open food is stored, and where utensils are washed need to be of shatterproof construction or equipped with approved shatter containment shields.
- 25. VENTILATION. Proper ventilation is needed to remove undesirable odors in order to maintain a pleasing atmosphere for your customers and an efficient working

atmosphere for your staff. (STATE THE FOLLOWING AS APPLICABLE IN "HEALTH NOTES").

- a. A minimum of twelve (12) air changes per hour is needed in all toilet rooms, janitor closets with mop sinks, anterooms leading to toilet rooms, and dressing rooms. The rating of exhaust fan, expressed in Cubic Feet per Minute (CFM) must be indicated for each room needing this ventilation. The light switch for the room should activate exhaust fans in these areas. Mechanical exhaust fans are to exhaust only to the outside air. Dead space exhausting is not permitted.
- b. An acceptable alternative method of ventilation for toilets, toilet anterooms, and dressing rooms may be a screened window opening of at least three (3) square feet in area, one-half of which is open area.
- c. Ductless fans are not approved for ventilation use.
- 26. EQUIPMENT. To ensure that food service and related equipment installed in a food facility is designed to be cleanable, only equipment that is listed by NSF International or by a recognized equivalent testing laboratory or agency tested to NSF International standards, will be permitted in a food facility.
 - a. All new and replacement equipment shall meet or be equivalent to applicable ETL, UL, Food Sanitation, and NSF International standards.
 - b. All show and display cases, counters, shelves, tables, refrigeration equipment, sinks, and other equipment used in connection with the preparation, service, and display of food shall be made of non-toxic materials and be constructed and installed to be easy to clean.
 - c. All equipment shall be placed on minimum six (6) inch high, NSF International type metal legs; completely sealed in position on a four (4) inch high continuously coved base or concrete curb; on approved casters; or cantilevered from the wall in an approved manner. (SEE ATTACHMENT)
- 27. BACKFLOW PREVENTION. Backflow prevention devices and methods are necessary to protect the public water system from contamination or backsiphonage and to prevent the backflow of sewage into food preparation sinks, ice machines, beverage dispensers, and similar types of equipment.
 - a. Any type of drain dispensing into a floor sink requires a legal air gap separation of no less than one (1) inch measured vertically from the end of the discharge pipe to the overflow rim of the floor sink, or an air gap separation which is twice the diameter of the discharge pipe. The greater of the two air gap separations if required.
 - b. Submerged inlets require backflow prevention devices installed consistent with the requirements of the local

plumbing inspector.

- 28. GREASE TRAPS/INTERCEPTORS-SEWAGE DISPOSAL. In order to prevent blockage of the sewer system due to accumulated grease and oils discharged from a food establishment, many wastewater treatment agencies are requiring the installation of grease traps or interceptors.
 - a. Check with the Wastewater Treatment Agency to see what size grease trap or interceptor is required. Once the requirements have been established, design the waste plumbing system to accommodate the required device.
 - b. Grease interceptors (large volume tank) are to be installed outside of the food establishment. These large volume tanks are installed in the ground.
 - c. Grease traps (small volume tank) shall be installed outside of a food establishment (wherever possible) in compliance with plumbing codes.

29. TRASH DISPOSAL.

- Trash enclosure areas constructed outside of the establishment are to have smooth surfaced interior walls (no exposed cinder block or brick work--putty coat plaster is acceptable), and a smooth surfaced concrete floor slab. Gates installed for the enclosure may be constructed of chain link fencing with plastic inserts. If the gate is constructed out of wood, it must have sealed surfaces for durability and weatherproofing. (Bumper quards are suggested to prevent damage to enclosure walls).
- Trash enclosure areas constructed inside of the food establishment are to be separated from the interior of the food facility by a self-closing, tight-fitting, outward opening door from the establishment. Wall and ceilings shall be smooth surfaced, light-colored, and the walls constructed to be durable. Floor surfaces shall be smooth concrete or equivalent, and sloped 1/4" per foot to one or more floor drains. The trash room shall be vented to the outside air either by mechanical ventilation meeting applicable building department requirements, or by natural ventilation through screened openings whose open area is equal to or exceeds 1/10 of the floor surface of the trash room. Service doors shall be outward opening and tight fitting. Provide a hose bib inside this room with an approved vacuum breaker attached to hose bib.

30. MISCELLANEOUS ITEMS.

- If soft drink, ice, or other dispensers are selfservice by the customer, then they must be of the pushbutton type or other approved dispenser where the cup is not used in the actuation of the dispenser. needed, single service cups and lid dispensers should be provided at the self-service areas. Indicate this information on the equipment specifications of the plan.
- Marlite wall panels are not acceptable in "wet" areas (behind sinks, and other plumbing).
- "Green" board drywall must have an approved wall c. covering in wet areas. Painting of the drywall is not acceptable as a waterproof wall surface behind wet areas.
- Water type steam tables, steam kettles, woks, and other water using equipment must have a fill faucet for replenishing/adding water to the device. These devices also need to be properly drained to a floor sink with a legal air gap separation. These items need to be clearly indicated on plans.
- All overhead exposed waste lines, regardless of location in the food establishment or type of piping, must have a catch trough installed under the line. The

trough is to be waterproof, running the entire length of the exposed waste line, and of a width one inch wider than the outside diameter of the exposed waste line, fittings, and couplings. (Trough ends should terminate at a wall or drain through plumbing that will dump to a floor sink or other approved waste plumbing connection.)

- f. Water supply to carbonators shall be protected by an approved reduced pressure principle back flow preventor. The relief valve shall drain indirectly to sewer with a legal air gap. Indicate on plans if applicable.
- g. If reclaimed water is going to be used to irrigate the landscape, please indicate on plans.

ATTACHMENTS

Sinks

Exhaust Hood

Bake Oven

High Temperature Dishwashers and Certain Ovens

Exhaust Steam Hood Section

Commercial Hoods/Mechanical Exhaust (Data Information Sheet)

Exhaust Hood Worksheet

Typical Equipment Floor Plan

Foodservice Equipment Schedule

Finish Schedule

Sample Material Sheet

Continuous Coving Detail @ Counters

Plumbing Floor Plan

Sneeze Guard @ Buffet Counter

Sample Letter (Preparing to Use Common Restroom Facilities)

Food Establishment Wastewater Discharge (FEWD) Permit Program

SAMPLE LETTER FROM A FOOD FACILITY PREPARING TO USE COMMON RESTROOM FACILITIES

Although the criteria in the Policy Memorandum of the Department of Environmental Health calls for an on-site management entity to maintain the common restroom facilities (owners and operators of food facilities), understands that the legal responsibility to provide properly maintained and readily available restrooms still rests with each individual food facility. Letter to be signed by Owner of food facility.

COMMERCIAL HOODS/MECHANICAL EXHAUST DATA INFORMATION SHEET

Provide the following information concerning mechanical
exhaust hood design:
1. Size of
Hood:
2. List of equipment under
hood:
3. CFM:

4. Size of
duct:
5. Number of grease
filters:
6. Size of grease
filters:
7. Rating of filters (CFM or
FRM):
8. Make-up air
(CFM):

Job	
Address:	
Operator's	
Name:	
Operator's	
Phone:	
Doing Business	
As:	
Contractor's	
Name:	
Contractor's	
Phone:	

EXHAUST HOOD WORKSHEET

- 1. Proper overhang provided:
 - a. 6 inches from outer edge of cooking device to inner edge of grease qutter
 - b. 18 inches in front and 12 inches from edge of door on pizza ovens and barbecue pits
 - c. 6 inches minimum distance between wall and behind cooking units or oven under hood
- 2. Hood Area "A" (L x W):
 - a. Cross (outside dimensions)=
 - b. Net (inside dimension)=
 - c. Lineal feet of cooking units (non-canopy hood only)
- 3. CFM to be removed: (use net area only)
 - a. 50 or 100 PD (alter note formula)
 - b. 200, 100, 75, 50 A (for three open sides or less)
 - c. 300, 150, 100, 75 A (for island types)
 - d. *300 x lineal ft. of cooking units (non-canopy hoods)
- 4. Duct cross sectional in inches (L x W) =
- 5. Duct velocity (to be between 1,500 and 2,500 fpm)

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Total CFM to be removed =
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Duct Area

6. Grease Filters: (1 square inch/ 3 CFM removed)

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Number =
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Size =

- 7. Gauge metal of hood (minimum 22)
- 8. Gauge metal of duct (minimum) Type I hood duct to have welded seams
- 9. Height of lower edge of hood from floor (maximum 7 feet)
- 10. Make-up air to be provided 100-percent mechanical. Hood and make-up air systems to be connected by an electrical interlocking switch (show or state on plans).
- * Regarding 1976 & 1979 UMC only, the average air velocity shall not be less than 30 from around the perimeters of the cooking device or the cooking surface.

